We claim:

1. An electro-mechanical chest compression device comprising:

a housing;

a motor disposed in the housing;

a power source operably connected to the housing and to the motor;

a drive spool rotatably attached to the motor, wherein the motor is capable of rotating the drive spool;

a belt attached to the drive spool, said belt capable of extending at least partially around the chest of a patient, wherein rotation of the drive spool tightens the belt to compress the chest of the patient;

wherein the total weight of the housing, motor, drive spool, power source and belt is less than about 30 pounds.

2. The device of claim 1 further comprising a brake operably attached to the motor and wherein the total weight of all components of the device is less than about 30 pounds.

3. The device of claim 1 further comprising a clutch operably attached to the motor and wherein the total weight of all components of the device is less than about 30 pounds.

4. The device of claim 1 further comprising a gearbox, said gearbox containing a gear system operably connected to the motor and to the drive spool, wherein the gear system has a gear ratio of less than 1, and wherein the total weight of all components of the device is less than about 30 pounds.

5. The device of claim 1 further comprising a control system disposed in the housing and operably connected to the motor, said control system capable of controlling the operation of the motor, and wherein the total weight of all components of the device is less than about 30 pounds.

6. The device of claim 5 wherein the control system comprises a processor.

7. The device of claim 6 wherein the control system further comprises a motor controller.

8. The device of claim 7 wherein the control system further comprises a power controller.

9. The device of claim 1 wherein the housing is sized and dimensioned so that a patient may be disposed on the housing and so that the patient may be transported while disposed on the housing.

10. An electro-mechanical chest compression device comprising:

a housing;

a motor disposed in the housing;

a channel beam mounted to the housing, said channel beam laterally oriented with respect to the housing and defining a channel across the housing;

a drive spool spanning the channel beam, said drive spool operably attached to the motor and rotatably attached to the channel beam, wherein the motor is capable of rotating the drive spool; and

a belt attached to the drive spool and disposed within the channel, said belt capable of extending at least partially around the chest of a patient, wherein rotation of the drive spool tightens the belt to compress the chest of the patient.

11. The chest compression device of claim 10 further comprising a brake operably attached to the motor, said brake operable to brake the operation motion of the motor.

12. The chest compression device of claim 11 further comprising a clutch operatively attached to the motor and to the drive spool, said clutch operable to selectively engage the drive spool to the motor during use.

13. The chest compression device of claim 12 wherein the brake, the motor, the clutch and the drive spool all lie along the same line.

14. The chest compression device of claim 12 further comprising a gearbox containing a gear system, said gear system operably attached to the clutch and to the drive spool, said gear system having a gear ratio that is less than 1.

15. The chest compression device of claim 14 wherein the brake, the motor, the clutch the gearbox and the drive spool all lie along the same line.

16. The chest compression device of claim 14 wherein the brake, the motor, the clutch and the gearbox do not all lie along the same line.

17. The chest compression device of claim 10 wherein the drive spool has a length of less than about 3 inches.

18. The chest compression device of claim 10 wherein the drive spool has a diameter of less than about 1 inch.

19. The chest compression device of claim 10 further comprising:

a spline attached to the belt;

a slot disposed in the drive spool along the length of the drive spool, said slot sized and dimensioned to closely match the size and dimensions of the spline, wherein the belt is attached to the drive spool when the spline is disposed in the slot.

20. The chest compression device of claim 19 further comprising:

a guide plate;

wherein the guide plate is operably attached to a component of the chest compression device selected from the group consisting of the drive spool, the channel beam or both the drive spool and the channel beam;

wherein the guide plate is further disposed such that the guide plate secures the spline within the drive spool slot when the spline is inserted into the drive spool slot.

21. The chest compression device of claim 10 further comprising a first spindle rotatably attached to a first end of the channel beam and a second spindle rotatably attached to a second end of the channel, said second spindle disposed opposite the first spindle.

22. The chest compression device of claim 21 wherein the distance between the first spindle and the second spindle is in the range of about 12 inches to about 22 inches.

23. The chest compression device of claim 21 wherein the first spindle and the second spindle are inset a distance from the edges of the housing.

24. The chest compression device of claim 10 further comprising a control system operably connected to the housing and to the motor, said control system programmed to control the operation of the motor.

25. The chest compression device of claim 10 further comprising a means for measuring force operably attached to the chest compression device, said means operable to measure the amount of force a patient applies to the device when a patient is disposed on the device, said means for measuring force also operable to measure the force applied to the patient during compressions.

26. The chest compression device of claim 25 further comprising a control system operably connected to the housing, to the motor and to the means for measuring force, wherein the control system is programmed to control the operation of the motor based on the amount of force measured by the means for measuring force.

27. The chest compression device of claim 10 further comprising a means for measuring a current, said means operably attached to the chest compression device, said means operable to measure the amount of current drawn by the motor while the motor is operating.

28. The chest compression device of claim 27 further comprising a control system operably connected to the housing, to the motor and to the means for measuring a current, wherein the control

system is programmed to control the operation of the motor based on the amount of current drawn by the motor while the motor is operating.

29. The chest compression device of claim 10 further comprising a vent disposed in the housing, said vent allowing air to circulate in the device.

30. The chest compression device of claim 29 wherein the vent is disposed in a recess that is disposed in the housing.

31. The chest compression device of claim 10 wherein the housing is sized and dimensioned so that a patient may be disposed on the housing and so that the patient may be transported while disposed on the housing.

32. The chest compression device of claim 10 further comprising:

a detent operably connected to a component of the chest compression device selected from the group consisting of the drive spool and the channel beam;

wherein the detent is disposed such that the spool shaft is prohibited from rotating when the chest compression device is not in use.

33. The chest compression device of claim 32 further comprising:

a spline attached to the belt;

a slot disposed in the drive spool along the length of the drive spool, said slot sized and dimensioned to closely match the size and dimensions of the spline, wherein the

belt is attached to the drive spool when the spline is disposed in the slot;

wherein when the spline is inserted into the drive spool slot the detent is displaced such that the spool shaft is allowed to rotate.